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Service Incentive

Towards an SOA Friendly Acquisition Process

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Agenda

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- Introduction and Motivation
- What is a Service Oriented Architecture
- The SOA Acquisition Challenge
- Towards Better Acquisition Practices
- Conclusions



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Introduction and Motivation



- **Research Project focused on affordability and process issues associated with SOA**
 - Conducted in conjunction with efforts at CERDEC to develop standards for SOA implementations throughout the Army
- **Research included study of SOA with focus on cost drivers and methodologies for cost estimation**
- **Discussions with contractors motivated thoughts beyond the costs to deploy.....**
 - Thoughts focused on cultural changes necessary for SOA projects to thrive in the current acquisition environment

As DOD moves forward with its vision of highly distributed net-centric capabilities they will need the benefits that SOA brings to the table.

Current acquisition practices could significantly thwart SOA based deployments



What is Service Oriented Architecture (SOA)

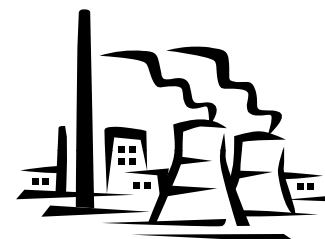


- **SOA uses networking capabilities to integrate applications in a way that is independent of:**
 - Architecture
 - Programming language
 - Development platform
 - Vendor
- **Service Orientation can be thought of as the next generation of object orientation**
 - New degree of abstraction
 - More sophisticated tools available to deploy

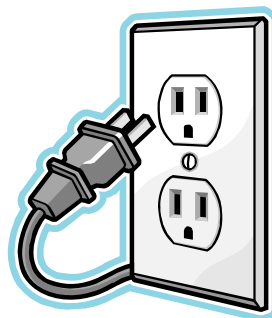
Service Orientation - Not a New Concept



Service Consumer



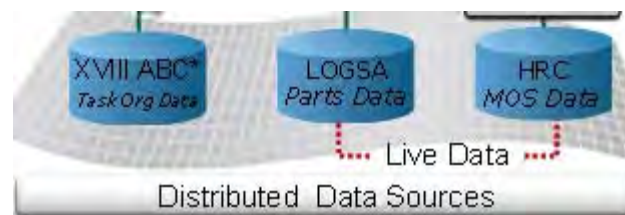
Service Provider



Interface



Service Consumer



Interface



Service Providers

- **Operational value**

- Agility
- Visibility of business processes
- Better support of the mission
- Better, faster decision making



- **Value to application development**

- Reduced redundancy
- Development efficiency increase (as services are reused)
- Loose coupling reduce impact of changed processes

- Have enterprise level governance
- Are developed with an enterprise wide view of the problem space
- Seek reuse opportunities externally and internally
- Develop services that take into account the bigger picture beyond the current need
- Know that SOA is more than a toolset



- **Hypothetical situation to consider:**

- Contract awarded to develop capability to store allergy data for all active duty soldiers and disseminate to locations where soldiers are fed.
- Software engineering team realizes that it would be efficient and offer more value to the DoD if all types of allergies were handled in the same service
- More useful service would take more time and effort to develop
- Contractor team abandons good SOA practices to solve the specific problem

Developing stovepipe solutions using SOA technology is a bad SOA practice yet contracts are focused on delivering specific requirements

- Within the DoD programs have ...
 - Specific capabilities they know they need
 - Specific time frame and budget to meet those needs
- Contracts are issued to meet those need but the contractor often has....
 - No incentive to think beyond those specific needs for a broader solution to the program
 - No incentive to think of a solution that would benefit the entire service or DoD
 - Limited or no incentive to find ways to reuse existing services rather than developing new capability





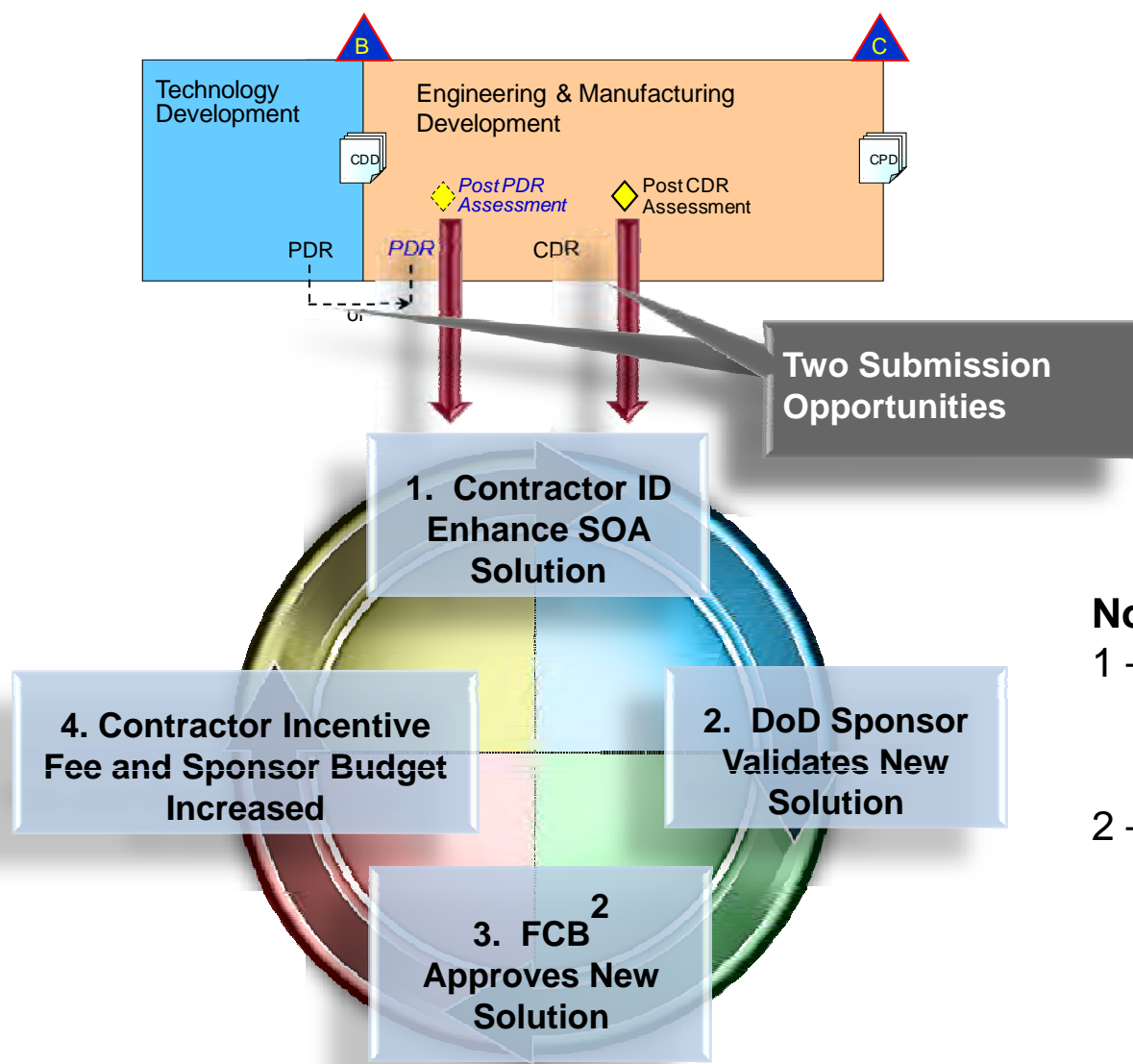
Cultural and Organizational Challenges



- Contractors and customer sponsors need to be incentivized to
 - Think beyond the current problem
 - Develop services that will address issues not yet on the table
 - Develop services that will address issues not relevant to the current issue or agency but with significant impact on another agency

There needs to be a streamlined process that encourages contractors to think outside the box while developing SOA solutions!

Notional Process to Encourage Good SOA Practices



Notes:

- 1 – Contractor presents idea with cost savings as part of assessment
- 2 – Functional Capabilities Board (FCB) responsible for assessing capabilities, priorities, and tradeoffs across the range of functional areas



Process to encourage good SOA Practices



- Contractor identifies enhanced SOA solution to contracting agency
 - Outline of additional costs
 - Outline added value (to contracting agency or other agency)
 - Outline cost savings of including this capability in this effort
- DoD Sponsor validated new solution
- Functional Capabilities Board (FCB) approves or denies
 - Ideally suggestions could be made to contracting agency and other branches of DOD that would benefit
- Upon validation of value added, a portion of the cost savings could be passed on as an award fee incentive to the contractor and a budget increase to the sponsor

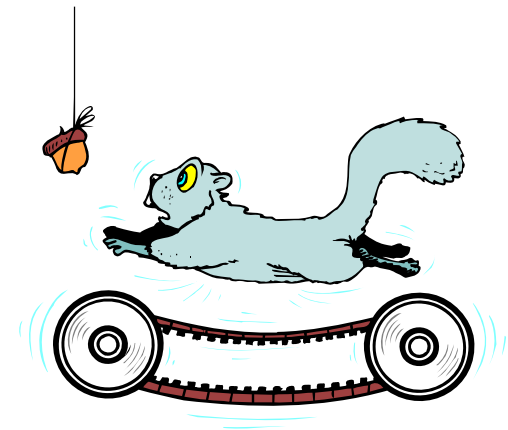


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Process to encourage good SOA Practices



- Incentives should also exist to encourage contractors to include reuse of existing services
 - Working with contracting agencies and FCB – contractors should seek out existing services in the DoD and public domain
 - Contract awards should include a provision for finder's fee based on anticipated savings to the contracting agency.
 - Awards should recognize
 - Cost savings to the current program
 - Value of non-duplication of services





- Clearly there is no simple solution.
- Thought needs to be given to ways to encourage good SOA practices
- Oversight needs to be applied at the highest levels possible to ensure solutions make the best overall sense for the DoD
- At the same time it's important not to bog down the process so nothing gets done

- SOA technologies offer a great opportunity for the Services and the entire DoD to develop forward thinking synergistic solutions that transcend current operational requirements
- Contractors and DoD sponsors need to be encouraged to embrace SOA beyond the 'letter of the law'
- This encouragement requires enterprise level oversight and expansion of current acquisition practices
- DOD would benefit by getting optimum value for their contract dollars
- Contractor would benefit as they become a vital part of the DODs SOA Planning process

Acquisition culture needs to shift to enable collaborative behavior to provide solution synergy